IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended): A method of forming a metal layer on a substrate, comprising:

~~providing~~ positioning a substrate ~~to~~ in an electroplating cell, wherein the electroplating cell has a porous pad and an electrolyte solution therein;

contacting at least a portions of the substrate to the porous pad; and

forming a metal layer ~~onto~~ on the substrate, ~~wherein the metal layer is formed on the substrate by alternately applying a first electrical potential and a second electrical potential to the electrolyte solution, and wherein the first electrical potential deposits metal on the substrate while the second electrical potential removes metal from the contacted portions of the substrate~~ by biasing the substrate relative to an electrode at a first electrical bias and then biasing the substrate relative to a second electrode at a second electrical bias, wherein the first electrical bias deposits metal on the substrate while the second electrical bias removes metal from the contacted portions of the substrate.

2. (original): The method of claim 1, wherein the substrate and the porous pad move relative to one another during metal layer formation.

3. (original): The method of claim 1, wherein the metal layer comprises copper (Cu), tungsten (W), nickel (Ni), aluminum (Al), gold (Au), silver (Ag), and combinations thereof.

4. (currently amended): The method of claim 1, wherein the porous pad contacts portions of the substrate with a pressure in a range of about 0.1 ~~phi~~ psi and about 5 psi.

5. (original): The method of claim 1 wherein the electrolyte solution comprises one or more materials selected from the group of water, pH adjusting agents, and metallic species.

6. (original): The method of claim 1 wherein the first electrical potential has an opposite polarity from that of the second electrical potential.

7. (currently amended): The method of claim 1 wherein either of the first electrical potential and the second electrical potential are alternately applied to ~~the electroplating cell~~ the substrate relative to the first electrode or the second electrode within a range of about - 5 volts to about 5 volts.

8. (currently amended): The method of claim 1 wherein either of the first electrical potential and the second electrical potential are alternately applied to ~~the electrolyte solution~~ the first electrode or the second electrode for differing time periods.

9. (new) The method of claim 1, wherein the first electrical potential applied relative to the first electrode is within a range of about 0 volts to about +5 volts and the second electrical potential applied relative to the second electrode is within a range of about 0 volts to about -5 volts are alternately applied.

10. (new): A method of forming a metal layer on a substrate, comprising:

positioning a substrate in an electroplating cell having a porous pad and an electrolyte solution therein;

contacting at least a portion of the substrate to the porous pad;

forming a metal layer on the substrate by biasing the substrate relative to an electrode at a first electrical bias and then biasing the substrate relative to a second electrode at a second electrical bias, wherein the first electrical bias deposits metal on the substrate and the second electrical bias removes metal from the substrate; and

varying the magnitude of the second electrical bias relative to the first electrical bias as the metal layer is formed.

11. (new): A method of forming a planarized metal layer on a substrate, comprising:

positioning a substrate in an electromechanical plating and polishing cell, wherein the electromechanical plating and polishing cell deposits and removes metal from a surface of a substrate;

transferring the substrate from the electromechanical plating and polishing cell; and

positioning a substrate in a chemical mechanical polishing cell, wherein the chemical mechanical polishing cell removes material from a surface of the substrate by use of an abrasive and mechanical energy.

12. (new): A method of forming a planarized metal layer on a substrate, comprising:

positioning a substrate in a first electromechanical plating and polishing cell, wherein the electromechanical plating and polishing cell deposits and removes metal from a surface of a substrate;

transferring the substrate from the electromechanical plating and polishing cell;

positioning a substrate in a second electromechanical plating and polishing cell, wherein the electromechanical plating and polishing cell deposits and removes metal from a surface of the substrate;

transferring the substrate from the second electromechanical plating and polishing cell; and

positioning a substrate in an chemical mechanical polishing cell, wherein the chemical mechanical polishing cell removes material from a surface of the substrate by use of an abrasive and mechanical energy.

13. (new): An apparatus for depositing and planarizing a metal layer on the surface of a substrate, comprising:

a wet electromechanical plating and polishing chamber;

a porous polishing pad mounted in the electromechanical plating and polishing chamber having a substrate receiving surface;

a carrier head mounted in the electromechanical plating and polishing chamber having a substrate retaining surface that biases a substrate against the substrate receiving surface of the porous polishing pad;

an electrode mounted adjacent to the porous polishing pad;

a diffuser plate positioned between the electrode and the porous polishing pad;

a membrane positioned between the diffuser plate and the electrode; and

a power source to electrically bias the electrode relative to a substrate that is in contact with the substrate receiving surface of the porous polishing pad.

14. (new): The apparatus of claim 13, further comprising:

a second electrode mounted to the carrier head in the wet electromechanical plating and polishing chamber; and

a second power source to electrically bias the second electrode relative to a substrate that is in contact with the substrate receiving surface of the porous polishing pad.

15. (new): The apparatus of claim 13, wherein the substrate receiving surface of the porous polishing pad contains an abrasive component to mechanically abrade a surface of the substrate.

16. (new): The apparatus of claim 13, wherein the membrane prevents the passage of particles from one side of the membrane to the other.

17. (new): The apparatus of claim 13, further comprising an endpoint detector mounted adjacent to the substrate receiving surface.

18. (new): An apparatus for depositing and planarizing a metal layer on the surface of a substrate, comprising:

a wet electromechanical plating and polishing chamber;

a porous polishing pad mounted in the electromechanical plating and polishing chamber having a substrate receiving surface;

a carrier head mounted in the electromechanical plating and polishing chamber having a substrate retaining surface that biases a substrate against the substrate receiving surface of the porous polishing pad;

an electrode mounted adjacent to the porous polishing pad;

a second electrode mounted to the carrier head;

a diffuser plate positioned between the electrode and the porous polishing pad;

a first power source to electrically bias the electrode positively relative to a substrate that is in contact with the substrate; and

a second power source to electrically bias the second electrode negatively relative to the substrate.

19. (new): The apparatus of claim 18, further comprising a membrane that is positioned between the diffuser plate and the electrode.

20. (new): The apparatus of claim 19, wherein the membrane prevents the passage of particles from one side of the membrane to the other.

21. (new): The apparatus of claim 18, wherein the substrate receiving surface of the porous polishing pad contains an abrasive component to mechanically abrade a surface of the substrate.

22. (new): The apparatus of claim 18, further comprising an endpoint detector mounted adjacent to the substrate receiving surface.

23. (new): A system for depositing and planarizing a metal layer on the surface of a substrate, comprising:

a wet electromechanical plating and polishing chamber comprising:

a porous polishing pad mounted in the electromechanical plating and polishing chamber having a substrate receiving surface;

a carrier head mounted in the electromechanical plating and polishing chamber having a substrate retaining surface that biases a substrate against the substrate receiving surface of the porous polishing pad;

an electrode mounted adjacent to the porous polishing pad; and

a power source to electrically bias the electrode relative to a substrate that is in contact with the substrate receiving surface of the porous polishing pad;

a chemical mechanical polishing chamber comprising:

a polishing pad mounted in the chemical mechanical polishing chamber having a substrate receiving surface; and

a carrier head mounted in the chemical mechanical polishing chamber having a substrate retaining surface that biases a substrate against the substrate receiving surface of the polishing pad; and

a transfer mechanism to pickup and place the substrate in the wet electromechanical plating and polishing chamber and the chemical mechanical polishing chamber.

24. (new): A method of forming a metal layer on a substrate, comprising:

positioning a substrate to an electroplating cell having a porous pad and an electrolyte solution therein;

contacting at least a portion of the substrate to the porous pad;

forming a metal layer on the substrate by biasing the substrate relative to an electrode at a first electrical bias and then biasing the substrate relative to the electrode at a second electrical bias, wherein the first electrical bias deposits metal on the substrate and the second electrical bias removes metal from the substrate; and

varying the magnitude of the second electrical bias relative to the first electrical bias as the metal layer is formed.

25. (new): A method of forming a metal layer on a substrate, comprising:

positioning a substrate in an electroplating cell having a porous pad and an electrolyte solution therein;

contacting at least a portion of the substrate to the porous pad; and

forming a metal layer on the substrate by biasing the substrate relative to an electrode at a first electrical bias and concurrently biasing the substrate relative to a

second electrode at a second electrical bias, wherein the first electrical bias deposits metal on the substrate and the second electrical bias removes metal from the substrate.